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16 March 1966

MEMORANDUM FOR THE RECORD

SUBJECT : Meetings on 13-14 March 1966 in Connection with Requirements and Procurement under Project AQUARIUS (AZAROLA)

1. Subject meetings were attended by the following

Richard E. Rissell, Jr. - Project Director
[REDACTED] - Project Consultant - Electronics
[REDACTED] - Project Communications Officer
[REDACTED] - Project Consultant - Electronics
[REDACTED] - Project Contracting Officer

2. Decisions:

(a) System 1

- (1) No. of Units - 12 \checkmark 3. Each item has a pair of of S band and I band antennas. These items completed and funded as of this date.
- (2) Test Data - It was agreed that 8 test sets would be procured. These are in process of being built. Funding is accomplished.
- (3) Test Program - The present test program has been inadequate. [REDACTED] will compile test parameters and [REDACTED] will be requested to formulate and carry out a definite test program.
- (4) Test Site Equipment, 30 day & 180 day Supplies and [REDACTED]
Funded and in process of production.

(b) System 2

- (1) No. of Units Two breadboard units are practically completed. Present production schedule contemplates a total of 4 ground units and 7 air units. Eventual

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TOP SECRET

Copy 7 of 9
Page 1 of 2

production planned - 11 ground units and 30 air units. Funding incomplete - proposal for production costs yet to be received.

- (2) Test Sets - Number indeterminate at this time. Test set yet to be designed and proposal will be forthcoming. Original System 2 will be serviced at [REDACTED] by laboratory equipment. No funding but verbal approval to proceed with preliminary work.

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- (3) Test Program - [REDACTED] expects to begin local tests (LA) by about 21-22 March. Cross country flying to begin about 26 March and to take about one week. Results from this initial program will dictate later tests to be made either in C-47 or in [REDACTED]. [REDACTED] to be requested to formulate and carry through any additional test programs indicated in accordance with parameters to be designed by [REDACTED]

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[REDACTED] to be requested to subject record production unit to environmental tests (temperature and pressure). All transmitters to be subject to pressure test.

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Kelly Johnson to coordinate with [REDACTED] of vibration test of the aircraft to determine frequency and amplitude in bay where System 2 is to be located so that later a vibration test can be conducted within limits expected to be encountered.

- (4) Rho-Theta System - This follow up to be determined at a later date. No activity on this phase at this time.

- (5) Modification - Cabling of the System 2 is to be redesigned to be able to retrofit system with a black box which will give automatic selector potential or manual control. Mr. [REDACTED] gave [REDACTED] approval on this item and it has proceeded. It is expected that this design change will result in little or no delay in production.

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(c) System 3

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- (1) No. of Units - [REDACTED] proposal visualizes 6 units and 2 spares. This number was confirmed. Funding incomplete - production funding yet to be accomplished.

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Copy 7 of 9

Page 2 of 2

~~TOP SECRET~~

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- (2) Test Set - It was agreed that h should be the number ordered. Funding incomplete.
- (3) Cabling - Quantity of 9 sets of cable was questioned. Weight of cabling to be ascertained.
- (4) Test Program - [redacted] to be requested to formulate and carry out a complete test program in accordance with parameters to be established by [redacted] and [redacted].

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- (4) System h - The system agreed to was a script system. Dr. [redacted] is compiling a proposal for such a system. The funding for the basic study of this system will have to be increased by [redacted] (plus fee) and time extended to April 15, 1956. [redacted] to be given confirmation of approval of the new concept of System h and approval to initiate basic engineering work.

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(1) No. of Units - Indeterminate at this time.

(2) Test Set - Indeterminate at this time.

- (3) Test Program - [redacted] to be requested to formulate and carry out a test program around parameters to be established by [redacted].

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- (4) Key Personnel - [redacted] is leaving [redacted] in about 30 days. Request to be made to General Schriever to keep [redacted] on the Project or to delay his departure by an additional 30 days.

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- (e) Systems Compatibility - [redacted] to be requested to assume this responsibility, not only as to capability of Systems 1, 2, 3 and 4 with each other but also with other equipment (radar, camera, etc.). The Project, through [redacted] to locate, probably in ONI, a suitable person to assign to this project to assist [redacted] and to later take over this responsibility.

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3. The Project Contracting Officer talked with [redacted] by telephone subsequent to each of the two meetings, along with Mr. [redacted] after the first meeting. Arrangements reached with and information obtained from [redacted] is as follows:

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TS-143261

Copy 7 of 9

Page 7 of 7

~~TOP SECRET~~

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- (a) Systems Compatibility Responsibility - [redacted] will assume this responsibility. The Project Headquarters must arrange with Lockheed and with [redacted] however, and later with Westinghouse, that each of these suppliers designate a competent person to work with and assist E-W on this problem. This action has not as yet been taken. [redacted] will also require active support from the Base Commander to make available aircraft and facilities for this purpose, as required.

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- (b) Responsibility for Test Programs - [redacted] will design and carry out a test program for each system, in accordance with parameters to be established by [redacted]

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[redacted] is preparing such parameters on System 1. [redacted] will conduct the desired environmental tests on the second production unit of System 2. This will take about 2 days. Mr. [redacted] will consult with Mr. Johnson on vibration tests in the System 2 equipment bay, looking toward later vibration tests on production units.

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- (c) System 1 - Completed insofar as production is concerned. Additional flight tests to be conducted on 15 March in conjunction with Commo personnel at the base. [redacted] will build 8 test sets. Mounting of same (trailer or other mounting) not yet determined.

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Shipping instructions were requested on three System 1 units for Commo stock. [redacted] notified to arrange for shipping instructions.

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[redacted] will review our test parameters when sent to him and design and carry out the desired test program.

- (4) System 2

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- (1) Delivery Dates - Dates presented by [redacted] at the meeting confirmed.

- (2) 0-47 Flight Plans - Initial local flights latter part of week of 18 March. Long distance flight probably week of 25 March. Duration of latter approximately one week.

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- (3) Quantity - [redacted] is planning on an initial production of 4 ground and 7 air units. A delay of 3 weeks in placing a firm order for 11 ground and 30 air units will not cause any appreciable gap in deliveries between the two production cycles.

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(4) Environmental Tests - Desired environmental tests will be conducted. He will consult with Mr. Johnson on vibration problem.

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(5) Plan-Phase Follow-Up - No work is being done on this item by [redacted] at this time. [redacted] suggests that later a small study should be initiated (after the hump has been crossed) to look into this area and he will be happy to look into it at that time.

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(6) Cabling - Cabling for the redesign for automatic channel selection is proceeding. No delay has been caused by this change.

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(7) Test Program - [redacted] will expect test parameters for any additional test program desired after the C-47 flights.

(a) System 3

(1) Quantities - 6 / 3 = 2 confirmed as the desired number of units.

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(2) Test Data - [redacted] was informed that 4 test sets were desired.

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(3) Cabling - Only six aircraft will be cabled. The other three cables are spares since [redacted] stated cabling frequently goes bad and frays or breaks. Weight of cabling is 3 - 4 pounds.

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(4) Test Program - [redacted] will formulate and carry out a test program around parameters to be furnished by Mr. [redacted]

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(5) Production Schedule - Production will be fitted in with System 1 production and will proceed. System 3 production will be funded very shortly in Amendment Number 7. In the meantime [redacted] has verbal approval to proceed.

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(4) System 4 - [redacted] agreed with the decision to go to a simple system. He is proceeding with formulation of a revised technical exhibit and engagement proposal. He has given approval to proceed with basic engineering on the system.

b. General Items:

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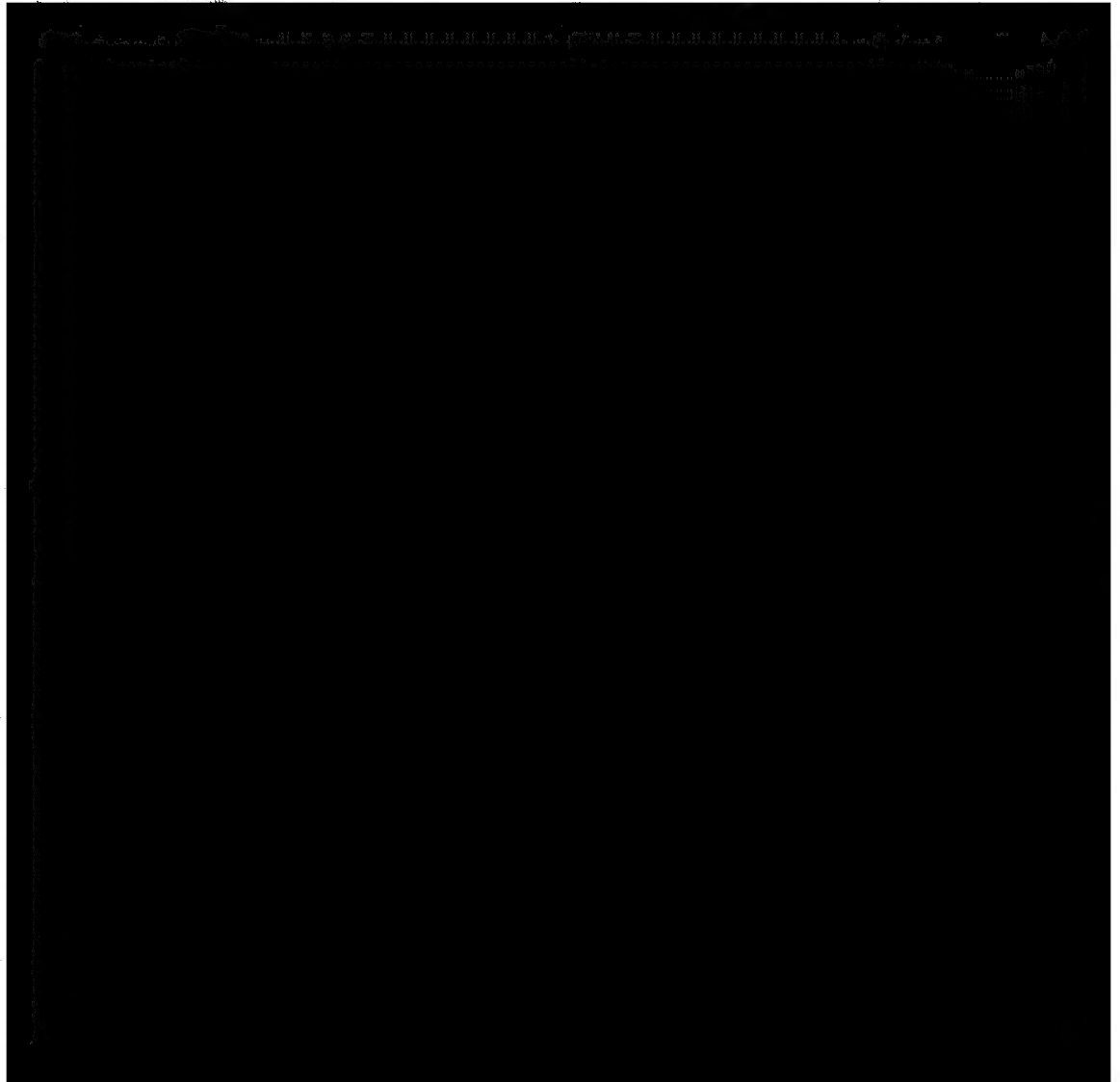
(a) [redacted] was informed of the division of responsibility in Headquarters as to primary technical responsibility for development of the four systems as follows:

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Copy 2 of 9

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<u>System 1 -</u>	[REDACTED]	with	[REDACTED]	having an active
<u>Interest.</u>	25X1A		25X1A	
<u>System 2 -</u>	[REDACTED]	with	[REDACTED]	having an active
<u>Interest.</u>	25X1A		25X1A	
<u>System 3 -</u>	[REDACTED]	with	[REDACTED]	having an active
<u>Interest.</u>	25X1A		25X1A	
<u>System 4 -</u>	[REDACTED]	with	[REDACTED]	having an active
<u>Interest.</u>				

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- (f) Tests for System 1 - [redacted] indicated that [redacted] [redacted] in California has excellent facilities for testing of System 1 at the time it is ready. It was agreed that this should be looked into by [redacted] and [redacted] at the proper time.

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- (g) [redacted] Comment on C-47 flights - [redacted] expressed sympathy with our desire to get the 2 H tests started but desired to point out that any malfunctions or other possible sources of trouble that could be caught on the bench prior to actual flights would pay good dividends in savings in time delays and make for more effective tests.

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5. Action Taken and Going Forward 25X1A

- (a) All approvals required by [redacted] at the present time have been issued to him by the Contracting Officer either in written form where proposals exist or in verbal form in anticipation of a proposal in the near future.

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- (b) [redacted] has prepared a set of parameters for System 1 test and there will be forwarded to [redacted] by the Contracting Officer as soon as these are received from [redacted] and coordinated with [redacted].

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- (c) Additional action required will be taken after further consultation with the Project Director and [redacted] and [redacted].

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[redacted]
Contracting Officer

Distribution:

Orig - Mr. Bissell

- 1 - [redacted]
2 - [redacted]
3 - [redacted]
4 - [redacted]
5 - [redacted]
6 - [redacted]
7 - [redacted]

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TS-1A-204
Copy 2 of 9
Page 7 of 7

~~TOP SECRET~~